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THE  
Canada Southern Railway  
COMPANY.

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The limited number of Pamphlets which were originally printed having been exhausted, in this new issue some few changes and additions have been made to conform to the present status of the undertaking, and the actual distances on the final location of this and of connecting lines westward.

NEW YORK, *September 5th, 1871.*

THE  
Canada Southern Railway  
COMPANY.

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PROSPECTUS, REPORTS

AND

OTHER DOCUMENTS.

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OFFICERS OF THE COMPANY.

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Toronto, Canada.

CHARLES TRACY,  
New York City.

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PROSPECTUS  
OF THE  
CANADA SOUTHERN RAILWAY  
COMPANY.

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THE OBJECT OF THE PROMOTERS OF THE CANADA SOUTHERN RAILWAY is to form with other Roads a cheap line of traffic between Chicago and New York, so located and constructed as to reduce the cost of transporting the products of the Interior to the lowest limit. The line adopted by this Company with its connections will accomplish this result, being practically level and straight to tide water. The natural outlets from Chicago and the Valley of the Mississippi to the seaboard, are either in a Southerly direction along the Valley of the Mississippi to the Gulf, or in an easterly direction to Lake Erie; thence along its borders to its eastern terminus at Buffalo, and from there following the plateau that extends to the Mohawk, thence to tide water on the Hudson, or by a line through Canada to Hamilton, at the

head of Lake Ontario, and thence by the Lake and the St. Lawrence to tide water. All railways from Chicago to the seaboard, between this plateau and the Mississippi, pass over formidable mountain ranges. The Erie over the Alleghanies at an elevation of 1,800 feet; the Pennsylvania at an elevation of 2,200 feet; the Baltimore and Ohio at an elevation of 2,600 feet, and the Chesapeake and Ohio at an elevation of 2,000 feet. Upon this route this great mountain range falls off at the summit of the plateau mentioned into a plain only 420 feet above tide water, and 145 feet below the level of Lake Erie.

#### R O U T E .

The Canada Southern Railway is located through the southern tier of counties in the Province of Ontario, the most populous and fertile agricultural portion of the Dominion of Canada.

Its eastern terminus is at the International Bridge, now being constructed over the Niagara River at Buffalo, and its western termini are on the Detroit River at Amherstburg, near its mouth, 229 miles from the International Bridge, and (by the branch) at Moore, on the St. Clair River, (opposite St. Clair in Michigan,) 184 miles from the Bridge.

## CONNECTIONS.

Its eastern connections with the seaboard, will be by the existing New York Central and Erie Railways; the Midland Railway, and the Buffalo and Washington, and Pine Creek Railways, now in the course of construction, which two last-mentioned, in connection with the Pennsylvania road, will furnish two additional lines to New York, and one to Philadelphia, Baltimore and Washington.

Its western connections with Chicago, will be by the Chicago and Canada Southern Railway, from opposite Amherstburg, as well as by the Peninsula and Midland, and the Michigan Air-Line Railways from St. Clair, all of which lines are now under construction.

The Railways mentioned will make four distinct lines from the eastern terminus of the Canada Southern to New York, and, with the Michigan Southern and Central, five distinct lines from its western termini to Chicago. The Canada Southern will thus be a connecting link between great systems of roads, which can now supply to it, at either end, a traffic equal to its utmost capacity. To connect these important systems there are now but two existing roads, viz.: the Lake Shore along the south shore of Lake Erie, and the Great Western of Canada, with its proposed "Loop Line" from Glencoe to Canfield. It is also the most direct link in

the line of communication between the West and the New England States, and their principal seaports.

The main line and its branch are located where the Detroit and St. Clair Rivers may be crossed to the best advantage, either by ferries or by bridging. Ferry-boats may be temporarily used, but public convenience will demand, as it has over the Mississippi, that bridges over them shall be built as soon as possible, with such provision as will prevent interference with navigation.

#### ALIGNMENT AND GRADES.

Annexed is the report of Mr. F. N. Finney, chief engineer, in which will be found in detail the lengths of the main line and the St. Clair branch, the proportion of the straight and curved lines, as well as of the grades and distances between objective points, as compared with other lines. Also, the report of the Hon. Wm. J. McAlpine, consulting engineer, who by his scientific knowledge and long practical experience in the construction and management of some of our most important railways, and in his official connection with the railways and canals of the State of New York, has had a very extended and diversified knowledge of the trade and commerce of the country, and also of the cost of transport as affected by the difference

of grades, alignment, etc., upon railways, and who has made and published many comprehensive reports upon these subjects.

He has carefully examined the report of our chief engineer Mr. Finney, and presents the advantages which this line possesses in regard to its position, grades and alignment.

The length of road to be constructed is 291 miles, of which 96 per cent. is straight, with no opposing grade exceeding 15 feet per mile, and that for only a short distance in any one place.

The distance from the common railway center at Buffalo, by the main line, is 23 miles less to Toledo than by the Lake Shore, and to Adrian by the Chicago and Canada Southern Railway, it is 48 miles less than by the Lake Shore.

The distance by the main line and the Chicago and Canada Southern Railways to Chicago, is 33 miles less than by the proposed "Loop Line" of the Great Western and the Michigan Central; 45 miles less than by the Lake Shore and Michigan Southern "Air-Line," and 55 miles less than by the "Old Line" of the Michigan Southern.

The Chicago and Canada Southern Railway is the closing link between the western terminus of the main line of the Canada Southern Railway and Chicago. The maximum grade of the former, like that of the latter, is but fifteen feet to the mile, with an alignment nearly as favorable as that of the Canada Southern.

None of the existing lines of railway between Chicago and New York, have been located and constructed with reference to cheap transportation. The great and increasing traffic between these points, now demands a line of railway which will afford the cheapest transportation practicable. With a few changes in the existing lines of railway between Buffalo and New York, grades of not exceeding fifteen feet per mile and good alignment, can be obtained, which will make, in connection with the Canada Southern, and the Chicago and Canada Southern Railways, a line over almost a level plain, the entire distance from Chicago to New York.

No better evidence of the value of low grades can be given than that which is exemplified by the experienced managers of the Pennsylvania Railway Company, who are now engaged in providing a low grade line for freight, between Pittsburgh and Harrisburgh, by which they will abandon 250 miles of their present main line for through freight traffic, although it will increase the length of the line to be run, 62 miles, and involve the actual construction of 110 miles of a new and expensive road.

Another instance is that of the Hoosic Tunnel, where twelve millions of dollars will be expended, mainly to reduce the grades between the Hudson and Connecticut Rivers, the distance to Boston being reduced only 10 miles. Similar changes in several of the Great Trunk Lines are

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in contemplation, all of which show that the attention of the most judicious minds of railway managers is earnestly directed to lessening the cost of transportation by reducing grades.

None of the railways between Chicago and New York, south of the Lakes, have a uniform gauge. A gauge of four feet nine to four feet nine and a quarter inches, intervenes in all of them. The Canada Southern, with its connections east and west, will form a through line, relieved of this objectionable feature, having a uniform gauge of four feet eight and a half inches, (the prevailing gauge of the country,) over its entire length.

Another important object to the northern roads connected with this line, will be effected by the construction of the Canada Southern. Heretofore the northern lines, when in close competition for traffic, or in a contest for speed, have been closely pressed by the more southerly lines; this railway will change the position of these lines in that respect, in favor of the northern lines.

The advantage which the Canada Southern possesses in the matter of routes and grades, and its importance to other lines cannot be better illustrated than by the discussions of the shareholders of the Great Western Railway Company, at a meeting held in London, England, in July last, called to consider the building of the "Loop Line" from Glencoe to

Canfield, extracts of which will be found hereto appended.

These gentlemen who expected to forestall the construction of the Canada Southern by building the "Loop," doubtless took an intelligent and comprehensive view of their position, as it was evident from the drift of their remarks, that the construction of the "Loop," was not deemed advisable for their interest as a project by itself, and was only urged to defeat the Canada Southern.

The value and importance of the Canada Southern Line itself, and its *necessity* to the other great lines in which we were interested, alone controlled the question of its construction.

If the Great Western Railway Company were warranted, even in entertaining the idea of a "Loop Line," parallel with their own railway, in consideration of procuring grades of thirty-five feet per mile, but by which they would gain nothing substantially in distance, while the business which it would get would be principally taken from their own main line, these other great interests, both east and west, would certainly be warranted in building the Canada Southern, by which they would save from forty-five to fifty-five miles in distance, and procure grades of 15 feet, which are as much better than those of the "Loop," as the latter are superior to those of their own main line, while

we will lose nothing by diversion, and have a line which is seven miles shorter than the Grand Trunk and "Loop" Lines between the International Bridge and their final divergence from our line near St. Thomas.

Chicago is not only a centering point for the railway lines from the eastward, but also of those extending to the westward.

Of the railways diverging west from Chicago, one great interest is under the same controlling power that manages the Michigan Central. This management is now extended to the Great Western of Canada.

To have left the monopoly of the traffic across the Peninsula of Ontario under that control alone, must have been regretted by every other interest both in and out of Canada.

#### TRAFFIC.

The managers of the Great Western, whose railway passes through a country occupied very much like that of the Canada Southern, state that from 1865 to 1869, there was an increase in the value of their through traffic, from \$500,000 to \$1,200,000; "a steady, regular increase which is going on still, notwithstanding the reduction of rates and fares between 1865 and 1869," of one hundred and thirty-six per cent. in five years; or, an average of twenty-

seven per cent. per annum. The gross traffic receipts for the half year ending 31st July, 1870, were \$2,044,500, of which the local traffic was 45 per cent. of the whole.

Taking the first half of 1870 as a basis, the receipts for that year would be \$4,000,000, of which, by the same proportion, \$1,800,000 would be derived from the local, and \$2,200,000 from the through business.

There being a "steady regular increase" between 1865 and 1869 of 27 per cent. per annum, it is a low estimate to assume, that by the time the Canada Southern Railway is completed, (January 1st, 1873,) the business of the Great Western will have increased at least 25 per cent., ( $12\frac{1}{2}$  per cent. per annum,) equal to an aggregate amount of local traffic of \$2,250,000, and of through traffic of \$2,750,000.

On the opening of the Canada Southern, with its further development of the large agricultural products for export, as well as those from the lumber and mineral oil districts, which have heretofore been destitute of railway and other facilities of transport, an additional local business may reasonably be expected of at least 25 per cent., making for both roads \$2,800,000 of which the Canada Southern, when fairly in operation, will, it is estimated, secure at least two fifths, or \$1,120,000, with an increasing proportion every year thereafter in its favor.

It may be added that a large traffic will be

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derived from the existing branch railways, from London, from St. Catharines, from the two roads which extend from the International Bridge, through Niagara Falls, and from the Hamilton branch now constructing, all of which, except the London branch, terminate on Lake Ontario, where they connect with the steamers running to Toronto and through the Lake and the St. Lawrence to Quebec, and to all of the important intermediate places.

The Hamilton branch will give us a direct communication by rail with Toronto, and all other points north and east of Hamilton to which railways have or may be extended. By this branch from Hamilton to Caledonia, thence by the Grand Trunk to its intersection with the Canada Southern, and by the latter to the International Bridge, Buffalo and the railways terminating there can be reached in about the same distance from Hamilton as by the Great Western, thereby giving Hamilton and the country tributary thereto a competing line to and from the East as well as the West, including the Oil Regions. The Hamilton branch is 27 miles in length from Hamilton to its intersection with the Canada Southern Railway  $58\frac{1}{2}$  miles west of the International Bridge, which latter point is 423 miles from Chicago, bringing Chicago within 450 miles of Hamilton, which is at the head of navigation on Lake Ontario.

The nearest point from Chicago at which Lake Ontario can be reached by rail along the south shore of Lake Erie, is over 560 miles.

A large through traffic over the Canada Southern, will be derived from the central and northern portions of Michigan, tributary to the St. Clair branch. The rich and thickly populated agricultural regions of central Michigan, together with the vast quantity of pine from the northern portion of the State, (already penetrated by railways,) can find no outlet to an eastern market so advantageous as over the St. Clair branch.

In addition to this, the St. Clair branch will obtain from the Peninsula and Midland, and the Michigan Air-Line Railways, not only the through business which those lines will derive from Chicago, but also their own local business, and very much of that which will be carried by the other lines, which they will intercept, and to which this branch can offer a shorter and cheaper line eastward, than can be obtained by any other.

From these sources, it is believed there will be derived an amount at least equal to that above estimated for the local traffic in Canada, or \$1,120,000.

The following extract, taken from the Report of the Convention, held at Saginaw, in 1869, of the friends of a line to connect with the Northern Pacific Railroad, from the St. Clair River

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*via* the Straits of Mackinaw, will show the value of the products of the northern portion of Michigan which will be tributary to the Canada Southern Railway:

Copper and Iron from Lake Superior,	. . . . .	\$8,900,000
Lumber, Timber, Shingles, Lath, Staves, etc.,	. . . . .	28,534,294
Salt,	. . . . .	1,111,380
Fish,	. . . . .	651,000
Plaster,	. . . . .	144,090
Total,	. . . . .	\$39,340,764

The Northern Pacific will be extended eastwardly either by that or some other Company, through the great mineral and lumber regions along the south shore of Lake Superior, to the Straits of Mackinaw, where it will connect with railways extending to St. Clair.

The distance by the Canada Southern and the Straits, from Buffalo to Duluth will be over 100 miles less than *via* the south shore of Lake Erie and Chicago. From all intermediate points east of Duluth the distance saved will be much greater. This is an important feature in connection with the Canada Southern Railway, and must ultimately add largely to its traffic.

From the main line *via* Amherstburg, our connection with Chicago will be by the Chicago

and Canada Southern Railway, with which we are in close alliance, forming together the most direct and level railway attainable between Chicago and Buffalo.

From the local business of this important line, the through traffic from Chicago, and from lines west of Chicago, an amount equal to that now derived by the Great Western from the Michigan Central, (increased by the twenty-five per cent. before stated,) viz., \$2,750,000, may certainly be relied upon, as soon as the facilities for transportation are afforded. This amount, together with the estimated local business of Canada, \$1,120,000, and the through traffic from Central and Northern Michigan, \$1,120,000, gives an aggregate of \$5,000,000.

In the foregoing estimate the business that centers at the Cities of Detroit and Toledo, from both of which points the Canada Southern will furnish the shortest and much the best route east, has not been taken into the account.

The best idea of the through business which the Canada Southern Railway may expect can be derived from a statement of the immense area, population, wealth, resources and progress of the States lying west of its western termini. These States are Michigan, Indiana, Illinois, Missouri, Kansas, Nebraska, Iowa, Wisconsin and Minnesota. They contain an area of 560,793 square miles, and had a population in 1870, of 10,280,371. The following statement will show

the area of each State, the population, and the number of miles of railway in each, in 1860 and 1870.

	Area, Square Miles.	Population, 1860.	Population, 1870.	Miles of R. R. 1860.	Miles of R. R. 1870.
Michigan . . .	56,451	749,113	1,184,296	779	1,733
Indiana . . .	33,809	1,350,428	1,673,046	2,163	3,177
Illinois . . . .	55,400	1,711,951	2,539,678	2,799	4,823
Missouri . . .	65,350	1,182,012	1,715,000	817	2,040
Kansas . . . .	81,310	107,206	362,871	—	1,401
Nebraska . . .	75,995	28,841	123,000	—	578
Iowa . . . .	55,036	694,913	1,191,802	655	2,550
Minnesota . .	83,521	172,023	435,511	—	972
Wisconsin . .	53,921	775,881	1,055,167	905	1,350
	560,793	6,772,368	10,280,371	8,118	18,624

The population of these States increased in the period of 10 years, 3,508,003, over 50 per cent. The railroad mileage in the same time increased 10,506 miles, or nearly 130 per cent. At a similar rate of increase, these States will have in ten years from this time, 15,000,000 inhabitants, and 40,000 miles of railway. But this is by no means all. New States are speedily forming out of Territories already containing large populations, while the railroads across the continent will bring to all the eastern lines an immense traffic from the interior and from the Pacific Coast. With that of the Territories, the increase of population in the West cannot be less than 600,000 annually. The yearly increase alone is adequate to the support of a first-class road to bear their products to market.

The States named in the preceding table produced last year 400,000,000 bushels of corn, and 150,000,000 bushels of wheat. The tonnage of this vast quantity exceeds 18,000,000 tons. But this tonnage, great as it is, is but a tithe of what will be produced with their increased population and under the stimulus of cheap transportation. The transportation of stock, and animal food of various kinds, constitutes a larger source of income of our through lines than that of grain. This kind of traffic is increasing much more rapidly than any other. The Eastern States are becoming more dependent every year upon the far West for their supply of animal food. Stock can be raised and transported at a profit far beyond the profitable limit for grains on account of the greater value of the former.

But the rapid increase of the tonnage of our railroads is much more wonderful than the increase in population.

The tonnage in 1869 of the five great roads coming into Chicago from the West; the Chicago and North Western, the Chicago and Rock Island, the Chicago, Burlington and Quincy, the Chicago and Alton, and the Illinois Central, amounted to 6,767,209 tons. In 1860 the tonnage of these roads did not exceed 1,500,000. The increase in 10 years equaled 5,267,209 or 350 per cent., or an average increase of 35 per cent., yearly.

The tonnage of the three great lines from the West terminating on the sea-board; the New York Central, the Erie, and the Pennsylvania Railroads, increased from 1859 to 1869, a period of ten years, from 2,873,631 tons to 12,997,089 tons, or an average of 35 per cent., annually. While this percentage cannot be maintained the actual annual increase will be much greater.

The following statement will show the tonnage of the five roads entering Chicago from the West, for a period of five years, ending with 1869.

	Illinois Central.	Chicago and Alton.	Chicago, Rock Island and Pacific.	Chicago, Burlington and Quincy.	Chicago and North Western.
1865.	1,022,024	386,197	441,510	809,674	956,584
1866.	1,034,946	511,012	472,557	737,511	1,137,515
1867.	1,153,175	638,360	459,986	821,883	1,726,919
1868.	1,439,675	915,682	654,435	937,489	1,982,429
1869.	1,601,972	1,076,678	846,887	1,029,746	2,211,826

Such rates of increase show how much more rapidly the products and wealth of the country increase than its population. Such evidence as this, drawn from the reports of railroad companies, show the absolute necessity of constantly increased provision for transporting the products of the interior to the sea-board, and that no provision that is likely to be made will equal the demand.

While the progress of railroads has been so rapid in the West, no great independent outlets have been opened for them to the eastern market during the last 10 years.

Mr. E. H. Walker, Statistician for the New York Produce Exchange, has kindly furnished the annexed interesting official statement, showing the average annual cost of transportation of wheat and corn by water, from Chicago to New York, including handling and other charges, for the past fourteen years. This has been in round numbers, 28 cents per bushel for wheat, both by Oswego and Buffalo, and for the year 1870, was 22 cents per bushel. Corn being carried at about the same rate for the same weight.

The toll on the Erie Canal for the last year was 3 cents per bushel with freight exceptionally low. If the Erie Canal is ever made free from toll, it will only reduce the cost of transportation by water to this extent. This is the only reduction possible, short of an enlargement of the canal.

Mr. McAlpine demonstrates that by a low grade line, grain can be carried from Chicago to New York for from 20 to 22 cents per bushel of 60 pounds, taking as a basis, the roads with iron rails, and with a road-bed as ordinarily used.

With a perfect road-bed and steel rails, a saving of 15 per cent. as compared with his estimate, may be assumed.

The practice of purchasing grain at the stations upon the roads west of Chicago, is increasing among grain dealers. This saves all charges at Chicago and Buffalo. These transfers

and other charges cannot be avoided if brought by water.

Another consideration of no small importance, is the shorter time of transit and the better condition in which the grain reaches market.

A freight train of 40 cars, with 14,000 bushels of wheat, which can always be relied upon, from Chicago to New York, (925 miles,) over a railway with a good road-bed, steel rails, and with grades not exceeding 15 feet per mile, and a return with one-fourth (100 tons) the weight, (which is about the proportion of back freight,) can be taken at a cost of not to exceed \$1.00 per mile run, or for 1,850 miles, . . . . . . . . . . . . . . . . . \$1,850

Terminal, and other charges, . . . . 468

Total, . . . . \$2,318

This includes the cost of working and maintaining the railway and equipment, together with every other expense, except interest on capital.

14,000 bushels of wheat at 17 cts. per bushel, is . . . \$2,380

100 tons mixed freight  
back, at 75 cents per hun-  
dred is 1,500

area, is . . . . . 1,960 — 3,880

Leaving a net profit of . . . . . \$1,562  
or over 40 per cent. upon the gross earnings.

A 32-ton locomotive will transport over such a road 60 cars, with 21,000 bushels of wheat, with a return freight of one-quarter the above (say 150 tons), at a cost of \$1.25 per mile run; this would reduce the cost of transporting the wheat to 14 cents per bushel, and the back freight to 60 cents per hundred.

The traffic of existing railroads has been constantly gaining over water routes, between Chicago and New York. The reduction in cost that can be made on this line will not only add to its tonnage from ordinary sources, but enable it to draw to an unlimited extent upon that which has heretofore gone by water.

Over such a railway as has been described, and which is entirely practicable, produce from Chicago and stations west, can certainly be transported cheaper to New York than by any existing water communication, and it is believed, cheaper than by any improved, or enlarged navigation practicable.

In connection with the transportation of grain through the St. Lawrence, which is now of considerable magnitude and rapidly increasing, the line to Hamilton becomes particularly important. The distance from Chicago to Lake Ontario, by water, is not only long and circuitous, but involves passing through the Welland Canal, the locks of which are only  $26\frac{1}{2}$  by 150 feet in the chamber. The locks between Lake Ontario and Montreal are 45 by 200 feet, the

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latter admitting vessels or barges of very much greater capacity—sea-going ships. Of 54,000,000 bushels of grain destined through the Welland Canal, 10,000,000 bushels, or nearly 20 per cent. were lightered over the Welland Railway, which was built by the side of the canal for that purpose. Taking grain by all rail direct to Hamilton, this lightering and expense of passing the Welland Canal will be avoided, and can there either be put into a class of ships safe for a sea voyage, or into large barges, for either Oswego, Montreal or Quebec, at which two latter places it can be sent abroad by a still larger class of ships. Grain can be taken from Chicago to the head of Lake Ontario at Hamilton, 450 miles, and transferred into vessels or barges through an elevator for 8 cents per bushel. Airing grain occasionally, through an elevator, on a long voyage, is worth to the grain all it costs. The transportation of grain by this route will doubtless become important, and add largely to the traffic of our railway.

The receipts of the Lake Shore and Michigan Southern Railway in 1870, were over \$13,000,000. From the 1st of January to the 1st September of this year (1871), the increased receipts, as compared with those of the same time last year, were over \$900,000, and but for the want of capacity to do the business offered, would have been greater. If more facilities

are necessary *now* to relieve this blockade, it will be imperatively necessary, upon the completion of the additional railways, now in course of construction from the Detroit and St. Clair Rivers west, and from Buffalo east.

The Canada Southern will have less than half the capital of the Great Western with its "Loop," and but half the capital, which belongs to that portion of the Lake Shore Railway, which is within a corresponding distance from Chicago. With the advantages of distance, grades and alignment largely in its favor, it will start off with a steel rail and new equipment of the most approved modern kind, whilst the Lake Shore and Great Western Railways, to avail of similar track and equipment, must add as much to their capital, as will nearly double track the Canada Southern.

The low grades and perfect alignment of the Canada Southern Railway will admit transportation of passengers at the highest speed, and under the conditions of the most perfect safety. It will have the same economical advantages in the transportation of passengers as it will have in that of freight.

With its ability for cheap transportation, and all its other advantages combined, it is difficult to estimate the traffic which must necessarily pass over the Canada Southern Railway, the most favorable link in that line of transit, over which so important a portion of the business of the continent naturally passes.

## ASSETS.

Capital stock, . . . . .	\$10,000,000
Capital stock subscribed, . . . . .	2,000,000
First mortgage, 7 per cent. sinking fund bonds, . . . . .	9,000,000
The cost of the Railway equipment and appurtenances complete, as estimated by the Chief Engineer, is . . . . .	14,500,000
To this must be added for commissions, office and legal expenses, and contingencies, . . . . .	1,500,000
Total . . . . .	<hr/> \$16,000,000

Based on the payment of one-half in the capital stock of the Company (\$8,000,000) and the remainder in first mortgage bonds of the Company (\$8,000,000).

This will leave two millions of the stock and one million of the bonds in the hands of the Company.

Sufficient of the securities (equal amounts of stock and bonds) have already been placed, to provide all the means necessary to procure the right of way, fence, grade, bridge, and prepare the road-bed upon the whole line of railway, including the Branch, for the superstructure, and to furnish the rails for, and complete fifty miles of the same.

The estimated annual gross receipts from traffic, as heretofore stated, are . . . . . \$5,000,000

The working expenses should not exceed 55 per cent. of the gross earnings, even at the minimum rates, or . . . . .	2,750,000
Leaving of net revenue, . . .	<hr/> \$2,250,000

The annual interest on the bonds is \$630,000, and the contributions to the Sinking fund \$82,000; this provides for the payment of the interest and debt at maturity.

Making . . . . .	712,000
Leaving, net, . . . . .	<hr/> \$1,538,000

which is equal to 19 per cent. on \$8,000,000 of stock.

The line is permanently located, right of way nearly all secured and paid for, all the grading and bridging, and most of the ties required are under contract and under way. The grading and bridging will be completed, and the road-bed of the whole line, including the Branch, made ready for the superstructure by the opening of next Spring. Rails for 65 miles (six thousand five hundred tons) have been purchased to be delivered this fall.

It is the design of the Company to have the whole line of Railway completed, equipped, and ready for operation, by the 1st of January, 1873.

A copy of the Bond and Mortgage is hereto appended.

FOR THE BOARD,

M. COURTRIGHT,

*President.*

NEW YORK, September, 1871.

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# REPORT OF CHIEF ENGINEER.

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To THE PRESIDENT AND DIRECTORS OF THE CANADA SOUTHERN RAILWAY COMPANY:

*Gentlemen:* Your road is now permanently located. A line has been obtained with grades not exceeding 15 feet to the mile, and 3 degree curves, being within the limits of my instructions. The distance from the west end of the International Bridge, (over the Niagara River at Buffalo,) to Amherstburg, (on the Detroit River, and near its mouth,) is 228.83 miles.

The St. Clair Branch, from the point of its divergence from the main line, (near St. Thomas,) to Moore, (on the St. Clair River, opposite St. Clair, Michigan,) is 61.89 miles; and from the International Bridge to Moore, the distance is 184.29 miles.

The alignment of the main line, from the International Bridge to Amherstburg, is as follows:

Straight line.....	218.76 miles.
Curves 3°.....	0.95 miles
"    2°.....	2.00 "
"    1°.....	4.72 "
"    ½°.....	2.40 "
	10.07 "

Making the total length of the main line..... 228.83 miles.

The alignment of the St. Clair Branch is as follows:

Length of straight line.....	60.98 miles
"    " curves 2°.....	0.91 "
	61.89 "
Making the total length of the main line and branch.....	290.72 miles.

The total length of straight line, (on the main line and branch,) is.....	279.74 miles.
The total length of curvature.....	10.98 "
	<u><u>290.72 miles.</u></u>

The principal tangents on the main line are, one of 17.34, one of 28, one of 51.18, and one of 52.15 miles, and on the St. Clair branch one of 54.48 miles.

The length of the different gradients on the main line are as follows :

Level and under 5 feet per mile.....	121.20 miles.
Going East, ascending 5 to 10 feet per mile.....	14.35 "
"    "    10 to 15 "    "    "    "....	19.80 "
"    "    of 15 "    "    "    "....	14.83 "
Going West, ascending 5 to 10 "    "    "    "....	21.77 "
"    "    10 to 15 "    "    "    "....	6.67 "
"    "    of 15 "    "    "    "....	30.21 "
	<u><u>228.83 miles.</u></u>

And on the St. Clair Branch :

Level, and under 5 feet per mile.....	42.09 miles.
Going East, ascending 5 to 10 feet per mile.....	5.25 "
"    "    10 to 15 "    "    "    "....	3.31 "
"    "    of 15 "    "    "    "....	4.47 "
Going West, ascending 10 to 15 "    "    "    "....	0.85 "
"    "    of 15 "    "    "    "....	5.92 "
	<u><u>61.89 miles.</u></u>

Of the 15 feet grades, there are 14.83 miles encountered on the main line going east, and 30.21 miles going west ; the greatest length of which, however, in any one place, going east, is 2.55 miles, and going west is 3.48 miles.

A line was run from a point near Sandwich, on the Detroit River, (opposite Detroit, Michigan,) for a distance of 15.2 miles, to the main line. It is nearly level and can be cheaply built. But as Detroit can be reached via the St. Clair Branch, with less distance and equally favorable grades, and to better advantage than by the way of Sandwich, it will probably be deemed inexpedient to build the road to Sandwich, at least for the present.

The distance from the terminus of the St. Clair Branch, at Moore, across the river to St. Clair, is 2,011 feet, or 0.38 miles, with a depth of water from 20 to 33 feet, with the exception of the main channel, which is 500 or 600 feet in width, with a depth of water averaging 43 feet, and a maximum of 45 feet, with a hard blue clay on the bottom, for the whole width of the river. This crossing is favorable, not only for a permanent bridge, but also for a temporary ferry, and is unobstructed by ice during the winter.

The distance from the terminus of the main line at Amherstburg, across the river to the main shore on the American side, is 3.48 miles. The eastern or main channel of the river, is about 3,500 feet in width, varying from 10 to 22 feet in depth, with an extreme depth of 22 feet, and a rock bottom throughout.

There are two other comparatively unimportant channels to bridge, on the Michigan side of the river, together nearly 3,000 feet in width, where the average depth does not exceed 15 feet. These two latter channels, and also a part of the main channel, can readily be bridged, leaving a ferry of only 3,000 feet. This crossing is also favorable for a ferry, being unobstructed by ice during the winter.

The crossings, both at Amherstburg and St. Clair, are favorable for bridging, and would be entirely unobjectionable on the ground of interfering with the navigation, if provided with suitable draws.

The distances between the objective points are as follows :

1st. Between Buffalo and Toledo, via the main line to the Detroit Branch of the Lake Shore and Michigan Southern Railway, to wit :

The International Bridge over the Niagara River.....	0.67 miles.
From the International Bridge to Amherstburg.....	228.83 "
From Amherstburg to the main shore on the American side.....	3.48 "
Thence to Toledo.....	38.02 "
	<hr/>
Total distance from Buffalo to Toledo.....	271.00 miles.

In estimating the distance from the point where our line would intersect the Detroit Branch of the L. S. and M. S. Railway to Toledo, I do not calculate the distance to the depot in Toledo, but to a point where the roads leading into Toledo would naturally intersect, and which would add nothing to their length.

2d. From Buffalo via the St. Clair Branch to Detroit :

Buffalo to St. Clair.....	184.29 miles.
St. Clair to Detroit via New Baltimore.....	42.00 "
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	226.29 miles.

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In calculating the distance from St. Clair to Detroit, it is not taken to the river, but to the point of intersection with the Detroit and Milwaukee R. R. and the Detroit Branch of the Lake Shore and Michigan Southern Railway, and which is convenient for the business of Detroit, and at the same time avoids the long circuit into and out of the city and saves a number of miles of distance in passing on to Chicago, by any of the roads leading to the latter.

The maximum grades on the proposed "Loop Line" are 35 feet to the mile, and with greater curvature than on the Canada Southern Railway.

In justice to the Chief Engineer of the G. W. Loop Line and his associates, it is proper to say, that these grades and this curvature were unavoidable; as by the act of Parliament, granting the right to build the road, they were obliged to locate it through the different villages along the route.

The maximum grades on the Grand Trunk Railway, between the International Bridge and Canfield, over which it is proposed to pass the traffic of the "Loop Line," are at least as great as those of the "Loop."

The distances from Buffalo to Chicago, (the principal objective point,) starting from the natural point of intersection with the New York Central, the Erie and other railways at Buffalo, (viz.:  $3\frac{1}{4}$  miles east of the Buffalo depot, and 5 miles from the west end of the International Bridge,) are as follows:

1st. By the Canada Southern main line, and the proposed Chicago and Canada Southern Railways, is . . . . .	MILES. 487
2d. By the Canada Southern and the Chicago and Canada Southern Railways to near Adrian and the Michigan Southern, . . . . .	494
3d. By the St. Clair branch of the Canada Southern, and the Michigan Air-Line Railways, . . . . .	497
4th. By the St. Clair branch of the Canada Southern, the Michigan Midland, and the Peninsula Railways, . . , . . . . .	505
5th. By the Grand Trunk, the Great Western and its "Loop Line" and the Michigan Central Railways, . . . . .	520
6th. By the existing line of the Great Western and the Michigan Central Railways, starting at an equal distance with the other lines from Rochester, . . . . .	526
7th. By the Lake Shore and Michigan Southern Railways, via the Goshen branch, . . . . .	532
8th. By the Lake Shore and Michigan Southern, via the old line, . . . . .	542
The distance from the intersection at Buffalo, by the Lake Shore Railway, to Toledo, is . . . . .	299
By the Canada Southern and the Detroit branch of the Lake Shore to Toledo, is, . . . . .	276

S<sup>t.</sup> Clair, in Michigan, is the same distance from Buffalo, by the Canada Southern as Cleveland is by the Lake Shore ; and Lansing, (the capital of the State of Michigan,) is the same distance from Buffalo as Toledo.

In addition to the low grades which have been established upon the Canada Southern Railway, and

the slight curvature, other essential advantages have been gained, which add to the safety and value of the road, viz. :

*First.*—There are no curves on the road, which do not have tangents of at least 1,000 feet between them, thereby allowing trains of the usual length to straighten, before entering upon another curve.

*Second.*—Every bridge upon the road, is approached by a tangent of not less than 1,000 feet in length, and in nearly all cases of much greater length. This is a very essential feature, as it lessens the strain on the structures, and reduces the liability of engines, or cars to leave the track, on or near the bridges.

*Third.*—The maximum grades are confined to the tangents. Curvature and grades seldom occur at the same place, and never where the resistance of the two combined, exceeds the effect of a grade of 15 feet per mile on a straight line.

*Fourth.*—The aggregate length of permanent bridges will not ultimately exceed 1,300 feet, or one-fourth of a mile, for the entire length of the main line and branch.

The working divisions of your road are determined by the location, and are very favorable for working it economically ; that is, St. Thomas being central on the main line and also at the eastern terminus of the St. Clair branch, by locating the main shops for construction and repairs at St. Thomas, every locomotive making regular trips over the road, either on the

Eastern, Western, or St. Clair Divisions, will necessarily come to these shops every twenty-four hours, and all cars passing over the main line or branch, will also be here examined and repaired.

Locomotives would easily make the trip over the Eastern and Western divisions daily, and a round trip each day on the St. Clair division, thereby economizing power to the greatest degree. Small shops in connection with the required engine houses at each end of the main line, and at Moore, would be the only shops in addition to the main one at St. Thomas, that would be required.

My estimate of the entire cost of the road, with a suitable allowance for contingencies and superintendence, (heretofore submitted in detail,) amounts to \$14,500,000. In this estimate is included, 1st : The cost of the right of way, 90 feet in width, as provided for in the Railway Act, together with the extra widths that may be required for deep cuttings, or high embankments, and all the necessary grounds for railway purposes, land damages, and the clearing and fencing of the line. 2d. : The graduation of the road-bed to the width required for a first-class road. 3d. : Providing for the best quality of Bessemer steel rails, weighing 60 lbs. to the yard, on the main line, and on the sidings, the best quality of iron rails of the same weight per yard. The rails will be laid upon cross-ties, 26 inches from center to center, with splice or fish joints and iron chairs, and with 12 inches of ballast beneath the ties. 4th. : Providing sufficient equipment, and of the best character ; the necessary depots, wood and water stations, shops and machinery, docks,

ferry boats, and all the other appointments needed for a first-class railway.

The favorable grades and alignment which have been obtained, have increased the cost, and together with the thorough construction, equipment and appointments necessary for the performance of the large business anticipated, have raised the estimate to the amount above named. But the additional cost of procuring the low grades and favorable alignment which has been adopted, I deem a wise expenditure, as it will so increase the capacity of the road and lessen the operating expenses, that 50 per cent. of the gross earnings, will be ample to operate and maintain the road, estimating the charges for carrying passengers and freight at the lowest rates.

Respectfully submitted,

F. N. FINNEY,  
*Chief Engineer.*

FORT ERIE, Ontario, Feb. 15, 1871.

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## REPORT OF CONSULTING ENGINEER.

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NEW YORK, February 15th, 1871.

To THE PRESIDENT AND DIRECTORS OF THE CANADA  
SOUTHERN RAILWAY COMPANY :

*Gentlemen* : You have requested me to examine the report of Mr. F. N. Finney, your Chief Engineer, who has made instrumental examinations of the peninsula of Ontario, for the purpose of obtaining the best location for your proposed railway, between the International Bridge at Buffalo and the Detroit and St. Clair Rivers.

From this full report and the map and profiles prepared by Mr. Finney, I derive the following general facts :

The length of the main line is 229 miles, and of the Branch is 62, making 291 miles.

Mr. Finney's maps, profiles and report, show that this is not only the shortest line between the objective points, but also forms a necessary link between the main trunk lines west of the Detroit and St. Clair Rivers, and those east of the Niagara River, and furnishes much the shortest route between the West and East, and at the same time secures grades of not, in any place, exceeding fifteen feet per mile.

I have a personal knowledge of a considerable portion of the country, over which your railway will be built, which enables me to confirm (if it was necessary,) many of the particulars in the report of Mr. Finney.

The line of the road passes through a well-settled country, which will immediately contribute a considerable local business, which will annually increase, sufficient in itself, to warrant the construction of the road.

The largest contribution of through business to the Great Western, is from the Michigan Central, which will have a shorter and cheaper route to the Atlantic markets, by your line, hence it will undoubtedly avail of these advantages and probably turn over to your road a considerable amount of business, which, by the existing circumstances, it is now compelled to send over the Great Western.

It must also be considered, that the trunk lines of railway, *west* of the line of the Detroit River, are now dependent for their connections with the great trunk lines *eastward* of the Niagara River, upon a single line of railway, through the southern Peninsula of Ontario, which at any time, (as has often happened,) may exact the rates which a monopoly demands, or be compelled to take the only alternative, of forcing the traffic over the (south) Lake Shore line, which is forty-five miles longer.

As some of the managers of the Great Western Railway, have suggested the construction of a "Loop Line" between Glencoe and Canfield, with the avowed object of preventing the construction of the Canada Southern, it is important to your Company, to carefully examine the reasons urged for the "Loop," and

how far it would affect your interests, as well as those of the Great Western, if it should ever be built.

The suggested "Loop" would start 80 miles from the western end, and 149 miles from the eastern end of the Great Western, and would be 103 miles long, and attain its connection with Buffalo, over 47 miles of a branch of the Grand Trunk, and the International Bridge.

The saving in distance on the through business, to New York, which this "Loop" will effect over its present line, would be but five miles.

The maximum eastward grades over the Great Western, are 55 feet per mile, those over the suggested "Loop" are 35 feet, and those over the used portion of the Grand Trunk, but little more. It is admitted that the alignment and grades over the combined route are more favorable than over the main line, but they are also as much inferior to those of the Canada Southern, as they are superior to those of its own main line.

The cost of the 103 miles of this Glencoe "Loop" would be at least five millions of dollars.

In the face of these circumstances, the Great Western propose as follows :

1st. To abandon 149 miles of the main line entirely, so far as through traffic, which is one-half of their whole business, is concerned ;

2d. To build a road rival to itself, which will cut off a portion of the remaining rural local business, on that 149 miles of the main line ;

3d. To give to a rival Company (the Grand Trunk) twenty per cent. of all of the diverted, through and local business, which diversion together is about three-fourths of the whole gross earnings ; And :

4th. To leave the local business subject to the existing inconvenience and expense due to the higher grades and less direct route of the main line.

If I was called upon to professionally advise the Great Western Company, I would recommend them to reduce certain of their grades eastward, as low as the nature of the country would admit ; and, if they should ever find it advisable to build a loop-line to Buffalo, to start it from a point on their main line, nearest to the Niagara Bridge, where eastward grades, in the direction of the greatest tonnage, can be found; or, in other words, to make as small a diversion of mileage from the main line, by the "Loop," as the nature of the country will admit. By this arrangement it will receive as much through traffic as by the "Loop," and will also obtain all of the advantages of the improvements on the main line, for the benefit of the local business, (which is one-half of the whole,) and will save the expense of the maintenance and operation of an additional 103 miles of railroad, and the interest on its cost. The distance through to New York is substantially the same by the main line, as by the suggested "Loop."

A sum insignificant as compared with the cost of the "Loop," expended on the main line, would render its grades as effective as those of the "Loop." The tonnage going west does not exceed one-fourth of that going east, and therefore, a less sum would be re-

quired to be expended upon the improvement of the grades in that direction.

This advice is not proffered to that Company, but the suggestion is made to further illustrate the position, that the construction of the "Loop" cannot be seriously entertained by the stockholders of that Company.

Your line has an advantage in its favor in regard to distance alone, to the principal objective point, of from 33 to 55 miles.

There is, however, a more important question to be considered between your line and that of any existing one, or any that can be built, being that of its superior advantages of grades and alignment.

It is somewhat difficult to state the moneyed value of the latter, as in it is involved the questions of safety, speed and operating expenses; but the report of Mr. Finney shows some facts which deserve more particular mention, and which do not, I believe, occur upon any railway on this continent.

The whole distance is on straight lines, except four per cent. Two tangents, each of 51 miles in length, are united by a short curve of one degree.

What is also remarkable, is that these extraordinarily long tangents are upon almost level grades, and that the maxima never exceed 15 feet per mile, and these for short distances of only one to three miles. It is the shortest possible line that can be found across this Peninsula of Ontario, between the Niagara and the Detroit or St. Clair Rivers.

In regard to grades, the rule may be assumed, as sufficiently accurate for this comparison, that one of twenty feet per mile, lessens the cargo tonnage of a locomotive, half of that which it will haul upon a level, and that an engine of thirty tons will haul three hun-

dred tons of cargo, on the average of the year round, (as tonnage is presented of different proportions of bulk and weight and with the different conditions of the rail,) on a grade of 15 feet per mile. It is quite true that such engines often haul twice this load, but experienced railway men will doubtless consider the above as fair, in its practical application to the subject under discussion.

It will be noticed, that in the following calculations, the average load of an engine of 30 tons, has been taken at 300 tons on a ruling grade of 15 feet per mile, for the mixed traffic of a railway. If, however, we are to consider the movement of regular fixed items of freight, such as grain, stock, oil, coal or lumber, the load of such an engine, over such grades, should be taken at 400 tons for an average of the condition of the rails, weather, and the other circumstances mentioned.

The Great Western line encounters grades of 60 feet to the mile going westward, and those of 55 feet eastward. It is considered as a fair practical presentation of this question, to assume, that in regard to the trade moving eastward, the engines on its existing main line, will encounter grades of 25 feet on its western half, and those of 55 feet on the eastern half, and on the suggested Glencoe "Loop," grades going east, of 25 feet for the western half, and those of 35 feet for the eastern half.

The controlling grades of all, except one of the working divisions of the Lake Shore Railway proper, (to Toledo,) are 35 feet, and those of the Michigan Southern and Central are from 35 to 45 feet to the mile.

Applying the rule before stated, to these several

lines, it will be found that the Canada Southern will have the following percentages, in its favor, over the above-mentioned lines *in addition to those of distance*, viz.: as against the existing line of the Great Western, of 66 per cent., of the Michigan Southern, of 55 per cent.; or, as applied to the suggested "Loop," and to the Lake Shore Line, of 40 per cent.

When we combine all of these advantages of your line, we find in its favor, 1st: That the saving in the length of miles of construction is, from 33 to 55 miles in length over its competitors. 2d: That the saving in the cost of maintaining and operating in regard to distance alone, will be in the same ratio. 3d: That the saving in maintaining and operating, effected by the lesser grades and more direct alignment, will be from 40 to 60 per cent; and, 4th: That by its shorter line, a diminished speed of trains will reach the objective points in the same time, the saving of which may be taken as shown by the same ratios. That is, that practically, the cost of all the expenses of running a train are nearly in the direct ratio of its speed.

When all of the advantages over any, and all, of the existing and projected competing lines, are again combined, the result proves that your railway will not only be highly productive to its promoters, but will also result in great advantage to all of its connecting western and eastern lines.

Both of the existing railways which were located at an early day's engineering across the Peninsula of Michigan, encounter heavy grades, and it would be difficult to avoid them without radical changes in their lines. The Goshen branch of the Southern Michigan, avoids the elevation encountered upon the main line, but even it is not far enough south at its western end

to secure the lowest grades for the whole line between Chicago and Lake Erie. The extension of your road over that Peninsula, is found to be not only shorter than any of the existing lines, but also susceptible of grades of not exceeding 15 feet.

There is a remarkable geographical feature of the country through Central New York, which must not be lost sight of in this discussion. The chain of mountains which extend through Virginia, Maryland and Pennsylvania, flatten down to the low table lands in western New York, and allows the vast volume of the water from the upper Lakes, to flow past its northern boundary to the Atlantic. Penetrating this plateau from the eastward, is the Mowhawk River, which virtually extends the Lake Erie plateau, on nearly a level plane, to within a hundred miles of the Hudson.

The elevation of Chicago is 565 feet above New York City ; hence, the planes connecting the two places will generally be in the direction of the heaviest traffic, and gravity becomes an important assistance to the railway tonnage in that direction, and therein differs from the lines of artificial water communication by locks, because upon the latter (an idea seldom thought of,) it costs as much to go down hill as it does to go up, much more than it does upon a level.

A line of railway extending from Buffalo to the Hudson River, with grades which will not exceed 15 feet, is attainable. Such a line need not diverge from existing or projected lines, except in particular places.

It then appears, that a continuous line of railway between Chicago and New York, running over the Canada Southern Railway, may be made, upon which the maxima grades going eastward, will not exceed 15 feet per mile.

This whole line and alterations will be built at an early day, and its effect upon the through traffic will form an epoch in the history of American railways.

It has been previously stated that the cargo which an engine of thirty tons will regularly haul, upon a grade of 15 feet per mile, is 400 tons.

The *reported* cost of running the trains, both east and west of your line, over the existing grades of 35 feet and upwards, is from one to one-and-a-half dollars per mile. Engines of the same size upon your road, will haul twice as much as is now carried over the existing roads, and at a cost but little exceeding that now incurred upon these lines, and when new and amended lines are built westward to Chicago and eastward to New York, on equally advantageous grades, the cost of transport between those points will be correspondingly reduced upon such staple articles as grain, stock, oil, coal and lumber, which are constantly and regularly offered in large quantities for the through transport.

If the cost of running the trains of the existing roads is taken at one dollar per mile, (which would be sufficient to charge to this class of regular through business that requires but one handling at each end of nine hundred miles,) the cost of the transport of a bushel of grain from Chicago to New York will not exceed 22 cents, and if the cheap water transport of the Hudson River is availed of, this price may be reduced two cents per bushel.

These estimates of train expenses are based upon the experience of the ordinary track with iron rails. By using steel on the whole line between Chicago and New York, the rails will last five times as long as those of iron, and reduce the cost of the repairs of

the track ten or fifteen per cent. The use of steel rails applies more particularly to the Canada Southern Railway, because they will cost but little more than the best iron rails do in the United States.

Such rates as may be reasonably expected will pay to the Railway Companies a respectable net revenue, and when to this is added the saving of insurance and the necessary storing and handling expenses and the certain delivery of the freight at the Atlantic market, within four days after its shipment, at all seasons of the year, the cost of transport by rail will be so reduced that it cannot fail to give a new impetus to the trade between the West and East and prove highly beneficial to both sections of the country.

Respectfully submitted,

WM. J. McALPINE,

*Consulting Engineer.*

NEW YORK, February 15, 1871.

## EXTRACTS.

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At a meeting of the shareholders of the Great Western Railway Company, held in London, England, in July last, called to consider the question of building the "Loop Line" from Glencoe to Canfield, the chairman, Alderman Dakin, now Lord Mayor of London, in advocating this measure, said, "It must be obvious to those who have studied the map which has been sent round to the shareholders, that if the project called the Southern Railway there shown were carried out in hostile hands, it would in a very material degree affect the prosperity of this Company. When we remember that the revenue of this Company is dependent upon its through traffic to the extent of two-thirds of the whole earnings of the line, and that upon that traffic depends our dividend, and when we observe that the Southern railway, if constructed, will have better gradients than our own line, and better means of transportation to New York, we cannot but feel that we are liable to suffer from this project most materially, if not to be damaged to an extent which would be irreparable. Therefore the shareholders will see that however reluctant the board may be to bring before them any plan involving the expenditure of a large sum of money, yet, as that is necessary to avoid a much greater evil, and to prevent great damage to their interests, we should altogether have failed in our duty if we had omitted to bring the matter before you as we are now doing." \* \* \*

"Now, this organization (the Canada Southern) depends entirely for its being successfully carried out upon the question whether the municipalities and townships through whose districts the line would pass, will subscribe a million and a half dollars as a bonus or free gift to those who promote the line; and it is upon the fulfillment of that condition the construction of the line is dependent." \* \* \*

"I am prepared to state to the meeting that we have information, the latest advices having arrived this morning, that the contribution thus to be made is an essential condition of the construction of the line, and this entirely depends upon the vote which we pass to-day. If the Company shall see fit in consequence of the considerations which are placed before it, to determine to make this (Loop) line, then the Canada Southern line of Mr. Thomson and his supporters will at once fall dead to the ground. If, on the contrary, you imperfectly support it, or give it a hesitating or a qualified assent, we have reason to believe that such is the state of feeling in the district that the local people will at once proceed to vote the necessary bonuses, and then those gentlemen in alliance with Mr. Thomson, who, so far as wealth is concerned, afford a sufficient security for their power to do what they undertake, will at once make this line." \* \* \*

"If we were to omit to do what we can to prevent that line from being made, it would be one of the most fatal days for the interests of the Great Western of Canada that could possibly arise." \* \* \*

"If this line were built, it would reduce the Great

Western, I have no hesitation in saying, very much to the condition of a local line. If it is allowed to be built, it will effectually cripple the through traffic upon which our dividend mainly depends." \* \* \*

Mr. Sangster, in opposition to the construction of the "Loop Line," remarked as follows : " Everything that you have said tends to urge us on to make that line and to show that some great calamity will come upon us if it be not made. I am of a different opinion. When you stated that this new line is to start from Glencoe, the idea flashed across my mind that there was once a "massacre of Glencoe" in Scotland, and that if this new railway is sanctioned by the shareholders of this Company, there will probably be another "massacre of Glencoe" in Canada. I think there is no necessity whatever for the making of this new line." \* \* \*

" I have no doubt that the immediate effect of the present proposal will be that our property will become greatly depreciated." \* \* \*

" I think that if we are to lay out our money it would be better to lay it out on our present line ; supposing that it would cost the same amount, we shall in that case still have the same servants and the same stations, and our traffic would no doubt increase.

The new line which is proposed, would decrease by so much the traffic on the existing line ; we should have robbed Peter to pay Paul by taking the money out of one pocket to put it into the other. I caution the shareholders of this Company, and I caution you, to beware of what is now contemplated."

**Season Average of Lake Freights on Wheat and Corn from Chicago to Buffalo and Chicago to Oswego: also Canal Freight on Wheat and Corn from Buffalo to New York and from Oswego to New York, from 1857 to 1870, inclusive, and the aggregate Cost in each route:**

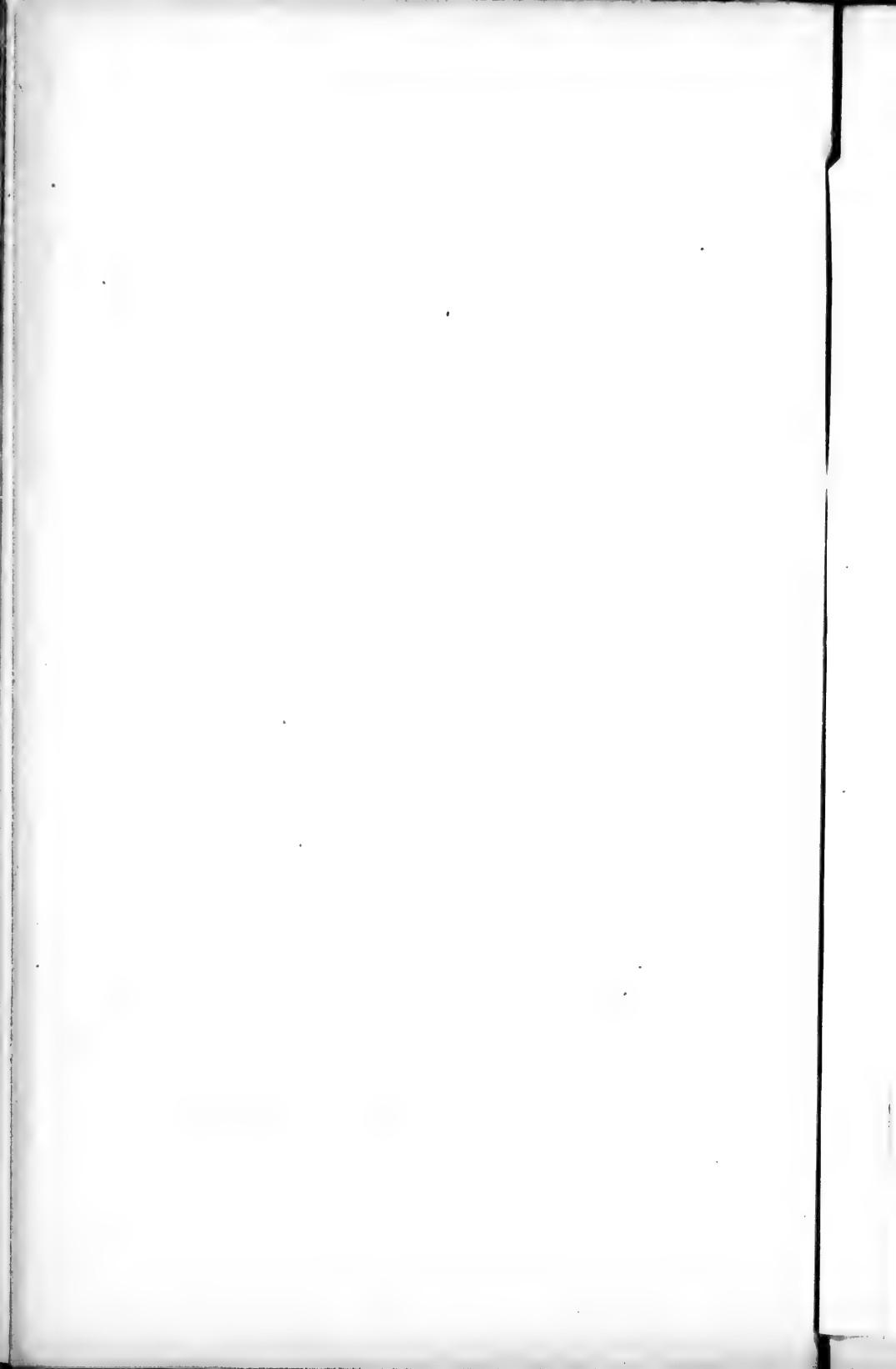
YEARS.	CHICAGO to BUFFALO.			BUFFALO to NEW YORK			CHICAGO to OSWEGO.			OSWEGO to NEW YORK			CHICAGO to NEW YORK			via BUFFALO.		
	Lake.			Canal and River.			Lake.			Canal and River.			Lake, Canal, River.			via OSWEGO.		
	WHEAT, per bushel, 60 lbs.	CORN, per bushel, 56 lbs.	WHEAT, per bushel, 60 lbs.	CORN, per bushel, 56 lbs.	WHEAT, per bushel, 60 lbs.	CORN, per bushel, 60 lbs.												
1857	9-8-9	8-6-1	15-3-9	12-1-4	14-0-5	12-4-6	10-6-9	7-9-5	25-2-9	20-7-5	24-7-5	20-4-1						
1858	3-7-6	3-2-5	12-5-2	10-9-7	7-4-5	6-7-5	8-7-3	7-5-5	16-2-8	14-2-6	16-1-7	14-2-9						
1859	5-0-8	4-6-0	12-8-0	11-1-8	7-0-3	6-5-6	10-7-2	9-2-6	17-5-9	15-7-8	17-6-2	15-7-6						
1860	9-8-9	8-9-2	14-9-4	13-4-3	14-0-5	12-4-6	10-7-7	9-6-4	24-8-3	22-3-5	24-8-2	22-1-0						
1861	11-5-3	10-5-6	15-7-5	14-4-3	15-6-7	14-4-6	11-1-1	10-1-0	26-5-5	24-6-7	26-5-4	24-3-9						
1862	10-4-9	9-6-0	15-8-4	13-7-6	15-2-2	14-2-7	11-0-5	9-5-8	26-3-3	23-3-6	26-2-8	23-8-5						
1863	7-5-1	6-5-6	15-3-9	13-3-9	11-7-4	10-5-9	10-8-9	9-3-7	22-9-1	19-9-4	22-6-2	19-9-6						
1864	9-5-8	8-9-4	18-7-8	16-5-5	15-3-7	14-2-8	13-0-9	11-6-2	28-3-6	25-4-9	28-4-6	25-7-6						
1865	9-7-8	9-0-7	11-8-4	14-6-7	14-9-2	13-9-7	12-3-1	11-0-0	26-6-2	23-6-0	27-2-3	24-9-7						
1866	12-3-4	11-4-1	17-2-7	14-4-2	18-9-3	17-1-2	11-6-9	10-2-5	29-6-1	25-8-4	30-6-2	27-3-3						
1867	6-6-7	5-4-3	15-6-9	13-3-2	10-8-7	9-6-2	11-4-8	9-7-4	22-3-6	20-4-4	22-3-5	19-3-6						
1868	7-1-4	6-0-5	15-6-5	13-0-1	11-6-5	10-5-8	11-2-2	9-6-7	22-7-9	19-0-6	22-8-7	20-2-5						
1869	6-8-1	6-2-7	16-3-1	13-8-6	11-3-2	10-5-9	11-8-1	10-3-0	23-1-2	20-1-3	23-1-3	20-8-9						
1870	5-8-8	5-4-3	11-2-2	10-3-5	10-2-5	9-6-2	8-1-9	7-6-5	17-1-0	15-7-8	18-4-4	17-2-7						
A.v. 14 years	8-3-1	7-4-8	14-9-5	13-2-5	12-7-5	11-8-1	11-0-5	9-5-5	23-2-6	20-7-3	23-8-0	21-3-6						

The storage and transfer charges at Chicago are 2c. per bushel; average lake insurance  $1\frac{1}{4}$  c. per bushel; Buffalo transfer charges  $1\frac{1}{4}$  c. per bushel; Buffalo shovelling and trimming charges on vessels and canal boats  $\frac{1}{2}$  c. per bushel, making an aggregate additional charge to be added to the average freight of full five cents per bushel; which transfer charges should not exceed 3 c. per bushel. If 5 c. per bushel be added to the average freight on wheat of 23-2-6, it will augment the cost to 28 c. 2 mills and 6-10 of a mill per bushel. But it will be noticed that the average freight on wheat in 1870 was 17-1-0, to which add 5 c., and the average cost is 22 c. 1 mill per bushel.

**E. H. WALKER,**

*Statistician for the New York Produce Exchange.*

NEW YORK, Feb. 15th, 1871.



No. ....

Canada Southern  
RAILWAY COMPANY.

FIRST MORTGAGE 7 PER CENT.

\$1,000

REGISTERED BOND.

*Principal Payable Jan'y 1st, 1906,*

AT THE

Union Trust Company of New York,

CITY OF NEW YORK,

J. S. A.

FIRST MORTGAGE.

1000

DOMINION OF  
PROVINCE



No.

# CANADA SOUTHERN R

Know all Men by these Presents, that the CANADA  
or assigns, in the sum of **ONE THOUSAND DOLLARS**, of lawful  
to pay to the said or assigns, on the first day of Jan  
office of the Union Trust Company of New York, in the City of New York  
lawful money, at the rate of seven per cent. per annum, payable at the same place

This Bond is one of a series issued and to be issued to an aggregate amount  
of Trust, dated the fifteenth day of December, 1870, duly executed and delivered by  
City of Erie, State of Pennsylvania, and Kenyon Cox, of the City of New York,  
successors in the Trust, the Railway of the said Company, its lands, tolls, revenue,

This Bond and any interest thereon shall not pass or be transferable except  
of New York, or at the office to be designated for that purpose, after registration of  
Bond is subject to the conditions endorsed hereon.

This Bond shall not become obligatory unless it shall have been countersigned

In Testimony whereof, the said Company has caused its corporate seal  
to be attested by the signatures of its President and Secretary  
Countersigned by \_\_\_\_\_

{ Trustees.



# N OF CANADA. OF ONTARIO.

REGISTERED BOND.

£ 1000

No.

## CANADA SOUTHERN RAILWAY COMPANY.

that the CANADA SOUTHERN RAILWAY COMPANY is indebted to

£ 1000, of lawful money of the Dominion of Canada, which the said Company promises  
to pay at New York, United States of America, on the first day of January, in the year of our Lord one thousand nine hundred and six, at the  
same place semi-annually on the first days of January and July of each year.

aggregate amount not exceeding Nine Millions of Dollars, and is secured by a Deed  
of trust delivered by the Canada Southern Railway Company to William L. Scott, of the  
City of New York, United States of America, Trustees, and conveying to them and their  
successors in office, all the lands, tolls, revenues, present and future property and effects, franchises and appurtenances,  
transferable except by transfer on the books of the Company at its agency in the said City  
and registration of ownership certified hereon by the transfer agent of the Company. This

bond is countersigned by the said Trustees, or their successors in the Trust.

and its corporate seal to be hereunto affixed, at Fort Erie, in the Province of Ontario, Dominion of Canada, and the same  
President and Secretary, on this second day of January, one thousand eight hundred and seventy-one.

Trustees.

..... President.

..... Secretary.

*Transferred by* .....  
*to, and registered in name of* .....  
..... 187  
..... *Agent.*

No.



FIRST MOR

*CONDITION.*

*This Bond, at the option of the holder, will be made a Sterling Bond, by application at the Agency of the Company in New York or London, England : principal and interest payable at the Company's Agency in London, England, or in the City of New York, at the rate of two hundred pounds sterling for the principal of the bond and seven pounds sterling for each coupon.*

*Principal Pa*

**Union Trust** (

**CITY O**

J

No. ....

Canada Southern  
RAILWAY COMPANY.

FIRST MORTGAGE 7 PER CENT.

\$1,000

REGISTERED BOND.

Principal Payable Jan'y 1st, 1906,

AT THE

Union Trust Company of New York,

CITY OF NEW YORK,

J. S. A.

CONDITION.

This Bond is subject to be redeemed at par in pursuance of the Mortgage, as follows: A sinking fund will be established by the Company by paying into the same, on or before the several days specified below, the several sums below stated opposite such days respectively, and the like amount of bonds will be redeemed out of said sinking fund upon each of said days respectively. The particular bonds so to be redeemed in each case will be determined by lot in pursuance of the mortgage, and the result of the lot in each case will be published in New York, and London, England, by advertisement in a daily newspaper of each of said cities, at least thirty days before the time of redemption; from which time interest on the bonds designated shall cease to accrue, namely:

TIME OF REDEMPTION.	AMT. OF BONDS TO BE REDEEMED.
January 1, 1875.	\$ 82,000.
January 1, 1876.	87,000.
January 1, 1877.	93,000.
January 1, 1878.	100,000.
January 1, 1879.	107,000.
January 1, 1880.	114,000.
January 1, 1881.	122,000.
January 1, 1882.	131,000.
January 1, 1883.	140,000.
January 1, 1884.	150,000.
January 1, 1885.	160,000.
January 1, 1886.	172,000.
January 1, 1887.	184,000.
January 1, 1888.	196,000.
January 1, 1889.	210,000.
January 1, 1890.	225,000.
January 1, 1891.	241,000.
January 1, 1892.	257,000.
January 1, 1893.	275,000.
January 1, 1894.	295,000.
January 1, 1895.	315,000.
January 1, 1896.	337,000.
January 1, 1897.	361,000.
January 1, 1898.	386,000.
January 1, 1899.	413,000.
January 1, 1900.	442,000.
January 1, 1901.	473,000.
January 1, 1902.	506,000.
January 1, 1903.	542,000.
January 1, 1904.	580,000.
January 1, 1905.	620,000.
January 1, 1906.	684,000.
	<u>\$9,000,000.</u>

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January 1, 1881.	122,000.
January 1, 1882.	131,000.
January 1, 1883.	140,000.
January 1, 1884.	150,000.
January 1, 1885.	160,000.
January 1, 1886.	172,000.
January 1, 1887.	184,000.
January 1, 1888.	196,000.
January 1, 1889.	210,000.
January 1, 1890.	225,000.
January 1, 1891.	241,000.
January 1, 1892.	257,000.
January 1, 1893.	275,000.
January 1, 1894.	295,000.
January 1, 1895.	315,000.
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January 1, 1901.	473,000.
January 1, 1902.	506,000.
January 1, 1903.	542,000.
January 1, 1904.	580,000.
January 1, 1905.	620,000.
January 1, 1906.	684,000.
	<u>\$9,000,000.</u>

## MORTGAGE.

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THIS INDENTURE, made this fifteenth day of December in the year of our Lord One thousand eight hundred and seventy, between the CANADA SOUTHERN RAILWAY COMPANY, a body politic and corporate, duly incorporated by the Legislature of the Province of Ontario, in the Dominion of Canada, of the first part, and WILLIAM LAWRENCE SCOTT, of the City of Erie, State of Pennsylvania, Banker, and KENYON COX, of the City and State of New York, United States of America, Banker, Trustees as hereinafter mentioned, of the second part:

WHEREAS, The Canada Southern Railway Company, under the powers conferred by the several statutes relating thereto, have commenced and are engaged in the construction of their line of Railway in the Province of Ontario, which, by the said statutes, they are duly authorized to construct from a point in the Township of Bertie, near the Village of Fort Erie, passing through the Town of St. Thomas, to some point in the County of Essex, in or near the Town of Sandwich, or the Town of Windsor, and also to some point in or near the Town of Amherstburg in the same County, and also to a point on the River St. Clair, in the Township of Moore, in the County of Lambton; and whereas, to enable the said Company more readily to complete its said undertaking, the said Company hath resolved to borrow under the provisions of the Railway Act, and to issue Bonds for an amount not to exceed in the aggregate the sum of Nine millions of dollars, nor more than Thirty thousand dollars per mile of Railway to be constructed, and to secure the payment of the said Bonds, with interest, by the Mortgage, pledge and hypothecation of the said Railway, its lands, tolls, revenues, present and future property and effects, franchises and appurtenances;

**AND WHEREAS**, the said Bonds, so to be issued by the said Company, are to be certified by the countersigning thereof by the parties of the second part, or the Trustees for the time being of these presents, and such countersigning shall be evidence that such Bonds are of the issue intended to be secured by this Mortgage, and are to be of the nature and effect following, that is to say: First, registered Bonds of the denomination of one thousand dollars, transferable only on the register of the Company, and, Secondly, Bonds with Coupons attached, payable to John F. Tracy, or bearer, of the denomination of one thousand dollars. Each class of Bonds to be payable in lawful money of the Dominion of Canada, in the said City of New York, on the first day of January, in the year one thousand nine hundred and six, with interest in the meantime at the rate of seven per centum per annum, payable in like lawful money of the Dominion of Canada, half-yearly, in the said City of New York, on the first days of January and July in each year; with a provision that at any time all or any part of the said Bonds, at the option of the holder, will be made Sterling Bonds, payable in Sterling Money of Great Britain, in London, England, or in the City of New York, at the rate of two hundred pounds Sterling for every bond, and seven pounds Sterling for each half-year's interest or coupon; and such Sterling Bonds shall carry all privileges of conversion or otherwise as fully as the Bonds originally issued, or intended to be issued, under these presents;

**AND WHEREAS**, the said Railway Company hath agreed to execute these presents as and for a first mortgage to secure the said issue of the Bonds aforesaid, being strictly limited to the sum of Nine millions of dollars in the aggregate, and the said sum of Thirty thousand dollars per mile of railway to be constructed;

**NOW THEREFORE**, these presents witness that for the purpose of securing the payment of the said Bonds, being in all the said sum of Nine millions of dollars, limited as aforesaid, with interest as aforesaid, and for the further consideration of one dollar in hand paid by the parties of the second part to the

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party of the first part, the receipt whereof is hereby acknowledged, the party of the first part hath granted, bargained and sold, and by these presents doth grant, bargain and sell unto the said parties of the second part, their heirs and assigns, and to their successors in the trust, all the following, present and future to be acquired estate and property of the said Company; that is to say, their Railway and undertaking made, in course of construction, and to be made between its terminus in the township of Bertie, near the village of Fort Erie aforesaid, to its respective termini, at or near the towns of Sandwich, Windsor, and Amherstburg, aforesaid; and also to its terminus on the St. Clair River, in the township of Moore, aforesaid; and being situate in the following counties, that is to say: Welland, Haldimand, Oxford, Norfolk, Elgin, Kent, Essex, Middlesex and Lambton, all in the Province of Ontario, and Dominion of Canada; including the right of way, and the land occupied thereby; together with the superstructure and tracks thereon, or to be thereon; and all iron rails, ties and other materials placed or to be placed or used thereon, procured or to be procured therefor, and all bridges, viaducts, culverts, fences, stations, station grounds, buildings and erections thereon, and all machine shops and other shops held or acquired for use, in connection with said Railway or the business thereof; and including also all locomotives, tenders, cars and other rolling stock or equipment; and all machinery, tools, implements, fuel and materials for the constructing, operating, repairing or replacing the said Railway or any part thereof, or any of its equipments or appurtenances; whether now held or at any time hereafter acquired, all of which things are hereby declared to be appurtenances and fixtures of the said Railway, and to be included in and to pass by these presents; and also all franchises connected with or relating to the said Railway, or the construction, maintenance, or use thereof, now held or hereafter acquired by the said party of the first part, and all corporate and other franchises which are now or may be hereafter possessed or exercised by the said party of the first part; together with all and singular the tenements, hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversions,

remainders, tolls, incomes, rents, issues and profits thereof, and all the estate, right, title, interest, property, possession, claim and demand whatsoever, as well in law as in equity, of the said party of the first part of, in and to the same, and any and every part thereof with the appurtenances. To have and to hold the said premises and every part thereof until the said parties of the second part, as joint tenants and not as tenants in common, and the survivor of them, and to the heirs and assigns of such survivors, and to their successors in the trust, to the only proper use and behoof of the said parties of the second part, and of the survivor of them, and of the heirs and assigns of such survivor, and to their successors in the trust; but nevertheless upon the trusts, and for the purposes herein expressed, that is to say:

*First.*—Until default shall be made in the payment of principal or interest of the said Bonds or some of them, or until default shall be made in respect to something herein required to be done or kept by the Canada Southern Railway Company, the said Railway Company shall be suffered and permitted to possess, operate, manage and enjoy the said Railway with its equipments and appurtenances, and to take and use the rents, incomes, profits, tolls and issues thereof, in the same manner and with the same effect as if this deed had not been executed.

*Second.*—In case default shall be made in the payment of any interest on any of the aforesaid Bonds issued, or to be issued, according to the tenor thereof, or in any requirement to be done or kept by the Canada Southern Railway Company, and if such default shall continue for the period of six months, it shall be lawful for the said trustees or the survivor of them or their or his successors, personally or by their or his attorneys or agents, to enter into and upon all and singular the premises hereby conveyed, or intended so to be, and each and every part thereof, and to have, hold and use the same, operating, by their or his superintendents, managers, receivers or servants, or other attorneys or agents, the said Railway and conducting the business thereof, and making from time

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to time, all repairs and replacements, and such useful alterations, additions, and improvements thereto, as may seem to them or him to be judicious, and to collect and receive all tolls, freights, incomes, rents, issues and profits of the same and of every part thereof, and after deducting the expenses of operating the said Railway and conducting its business and all of the said repairs, replacements, alterations, additions, and improvements, and all payments which may be made for taxes or assessments, prior to the lien of these presents, upon the same premises or any part thereof, as well as a just compensation for their or his own services, to apply the moneys arising as aforesaid to the payment of interest in the order in which such interest shall have become due or shall become due, ratably to the persons entitled thereto; and after paying all interest which shall have become due, to apply the same to the satisfaction of the principal of the aforesaid Bonds, which may be at that time due and payable, ratably and without discrimination or preference; and after the said interest and principal so in default shall have been fully paid, then the said trustees shall restore the possession of the Railway with its franchises and appurtenances to the said Railway Company and its successors.

*Third.*—The Canada Southern Railway Company shall, from time to time and at all times hereafter, and as often as thereunto requested by the Trustees, execute, acknowledge and deliver all such further deeds, conveyances and assurances in the law for the better assuring unto the Trustees and their successors in the trust hereby created upon the trusts herein expressed, the said Railway, with the equipment and appurtenances hereinbefore mentioned or intended so to be, and all other property and effects whatsoever which may at any time hereafter be acquired for use in connection with the said railway or any part thereof, and all franchises now held or hereafter acquired, as by the Trustees or the survivor of them or their successors, or by their or his counsel learned in the law, shall be reasonably advised, devised or required.

*Fourth.*—The Board of Directors of The Canada Southern

Railway Company may, from time to time, by resolution, require the said Trustees to convey, by way of release or otherwise, to discharge from the operation of these presents, any lands acquired or held for the purposes of stations, depots, shops, or other buildings or premises connected therewith, or which may be held for the supply of fuel, gravel, or other material, or any lands which may have become disused by reason of a deviation in the said line, or of a change of the location of any station house, depot, shop or other building or premises, or any lands which the said Board of Directors may deem it expedient to disuse or abandon, by reason of such deviation or change ; and which lands respectively shall, by resolution of the said Board, be declared to be unnecessary for the purposes and business of the said Company ; and in every such case the said Trustees, when so required, shall execute such releases and discharges accordingly ; and it is hereby declared that any lands which may be acquired in substitution for lands so released or discharged, as well as any lands subsequently acquired by the said Company for the use or convenience of its Railway, or in connection therewith, shall be deemed to come within the operation of these presents, and to be included therein, and shall be conveyed to and held by the said Trustees, upon the trusts of these presents ; and it is further declared, that the said Company may, from time to time, sell or dispose of any part of the equipment, rolling stock, machinery, implements or materials at any time held or acquired for the use or purposes of said Railway, as may, by resolution of the Board of Directors, be declared to be no longer useful or necessary for the said Company's business, and any new or subsequently acquired equipment, rolling stock, machinery, implements and materials, shall come within and be subject to these presents.

*Fifth.*—If the said Canada Southern Railway Company shall well and truly pay the sums of money required to be paid by the said Company, and all interest thereon according to the tenor and effect of said Bonds, and shall well and truly keep and perform all things herein required to be kept or performed by the said Company, according to the true intent

and meaning of these presents, or if the said Bonds and interest payable thereon become in anywise paid and satisfied, then in that case the estate, right, title and interest of the said parties of the second part, and of their successors in the trust hereby created, shall cease, determine, and become void, otherwise the same shall be and remain in full force and virtue.

*Sixth.*—It is mutually agreed by and between the parties hereto that the word Trustees as used in these presents shall be construed to mean the Trustees for the time being, whether one or both be original or new, and whenever a vacancy shall exist to mean the survivor or continuing Trustee, and such Trustee shall, during such vacancy, be competent to exercise all the powers granted by these presents, to the parties of the second part; and it is mutually agreed, by and between the parties hereto, as a condition on which the parties of the second part have assented to these presents, that the said Trustees shall not in any manner be responsible for any default or misconduct of each other; and that the said Trustees shall be entitled to just compensation for all services which they may hereafter render in their trust, to be paid by the said Company; and that either of the said Trustees or any successor may resign and discharge himself of the trust created by these presents by notice in writing to the said Canada Southern Railway Company, and to the existing Trustee, if there be such, ninety days before such resignation shall take effect, or such shorter notice as they may accept as adequate notice and upon the due execution by him of the conveyances hereinafter required; and that the said Trustees or either of them may be removed by the vote of a majority in interest of the holders of the aforesaid Bonds then outstanding, the said vote being had at a meeting called by the holders of at least Five hundred thousand dollars of said Bonds, by advertisement published for six consecutive weeks, by insertion once per week in a daily newspaper of large circulation in the cities of New York and Toronto, respectively, and at said meeting said bondholders may vote in person or by proxy, and their said vote shall be attested by an instrument under

the hands and seals of the persons or their proxies so voting ; and that in case at any time hereafter either of the said Trustees or any Trustee hereafter appointed, shall die or resign or be removed as herein provided, or by a Court of competent jurisdiction, or shall become incapable or unfit to act in the said trust, a successor to such Trustee shall be appointed by the Board of Directors of the said Railway Company, with the consent of the holders for the time being of a majority in interest of the said Bonds, evidenced by any writing to that effect from them respectively, or with the consent of a meeting duly held of the said bondholders, called after advertisement in that behalf, published for the time and in the manner hereinbefore mentioned, and the Trustee or Trustees so appointed, with any Trustee so surviving or continuing, shall thereupon become vested with all the powers, authorities and estates granted to or conferred upon the parties of the second part by these presents, and all the rights and interests requisite to enable him to execute the purposes of this trust without any further assurance or conveyance so far as such effect may be lawful ; but the surviving or continuing Trustee shall immediately execute all such conveyances or other instruments as may be fit or expedient for the purpose of assuring the legal estate in the premises jointly with himself to the Trustee so appointed ; and that upon the death, resignation or removal of any Trustee, or any appointment in his place in pursuance of these presents, all his powers and authorities by virtue hereof shall cease, and all the estate, right, title and interest in the said premises of any Trustee so dying, resigning, or being removed, shall, if there be a co-Trustee surviving or continuing in office, wholly cease and determine, but the said Trustee so resigning or being removed shall, on the written request of the new Trustee who may be appointed, immediately execute a deed or deeds of conveyance to vest in such new Trustee jointly with the continuing Trustee, and upon the trusts herein expressed, all the property, rights and franchises which may be at that time held upon the said trusts. Or in case it shall hereafter at any time prove impracticable, after reasonable exertions to appoint in the manner hereinbefore provided, a successor in any vacancy which

may have happened in said trust, or in case the trust shall become wholly vacant, application on behalf of all the holders of the Bonds secured hereby may be made by the surviving or continuing Trustee, or if the trust be wholly vacant, by the application of the holders of the said Bonds to the aggregate amount of One hundred thousand dollars, to the Court of Chancery in the Province of Ontario, for the appointment of a new Trustee, or new Trustees.

*Seventh.*—It is hereby declared and agreed that any of the Coupon Bonds, the issue whereof is by these presents secured, may at the option of the holder thereof be converted into or exchanged for a like amount of Registered Bonds, the issue whereof is hereby secured; And it is also further agreed, that the holders of the Registered Bonds secured by these presents, may from time to time transfer the same on the books of the Company, and that new Registered Bonds may be issued in the place and stead of those surrendered for cancellation on such transfer, and that this mortgage shall enure to the benefit and security of the holders of such new substituted Bonds, which may be issued on such transfer and cancellation. And said Board of Directors in its discretion, at any time and from time to time, may allow the conversion or reconversion of Registered Bonds into Coupon Bonds, by surrender and exchange, at the request of the holders of such Registered Bonds, and such substituted Bonds shall be secured by these presents in like manner as the Registered Bonds so surrendered.

*Eighth.*—And it is hereby further declared and agreed that at any time all or any part of the said Bonds whether registered or coupon, at the option of the holder thereof, shall be made by said Company Sterling Bonds, payable in Sterling money of Great Britain, at the rate of Two hundred pounds Sterling for each Bond, and seven pounds Sterling for each half-year's interest or coupon; and such Sterling Bonds shall be made payable in London, England, or in the City of New York, as such holder shall then elect; and such Sterling Bonds shall be held to be secured by these presents, and issued

thereunder, and to carry and to be entitled to all privileges of conversion or otherwise, as fully as the original bonds issued, or intended to be issued, payable in lawful money of the Dominion of Canada. And the said Company may, by resolution of the Board of Directors, from time to time, establish offices in New York and London respectively, for the transfer of registered Bonds, and for converting Bonds into Sterling Bonds as above.

*Ninth.*—And the said Canada Southern Railway Company hereby covenants and agrees to and with the said parties of the second part, and their successors and survivor, for the benefit and in trust for the holders of all the said Bonds, that said Company shall establish a Sinking Fund adequate for the redemption at par of all the said Bonds, at or before the maturity thereof; and that said sinking fund shall be preserved and used for such redemption, and for no other use or purpose; and that said Company will pay into said sinking fund, on or before the first day of January, One thousand eight hundred and seventy-five, the sum of Eighty-two thousand dollars, and thereafter will pay into said sinking fund on the first day of January of each succeeding year the several sum herein written after such year, that is to say, in the year 1876, \$87,000; in 1877, \$93,000; in 1878, \$100,000; in 1879, \$107,000; in 1880, \$114,000; in 1881, \$122,000; in 1882, \$131,000; in 1883, \$140,000; in 1884, \$150,000; in 1885, \$160,000; in 1886, \$172,000; in 1887, \$184,000; in 1888, \$196,000; in 1889, \$210,000; in 1890, \$225,000; in 1891, \$241,000; in 1892, \$257,000; in 1893, \$275,000; in 1894, \$295,000; in 1895, \$315,000; in 1896, \$337,000; in 1897, \$361,000; in 1898, \$386,000; in 1899, \$413,000; in 1900, \$442,000; in 1901, \$473,000; in 1902, \$506,000; in 1903, \$542,000; in 1904, \$580,000; in 1905, \$620,000; in 1906, \$684,000; and that on the first day of January, in the year One thousand eight hundred and seventy-five, and yearly thereafter, said Company shall pay and apply out of said sinking fund, the several sum so then respectively appropriated as above, for said sinking fund, to the payment and redemption of said bonds to the like amount at par; that

the particular Bonds so to be redeemed shall be determined in every case by lot, cast or drawn at some time in the month of November next previous to such redemption, by some disinterested person or persons appointed by the Company; and the result of such lot, designating and specifying the particular Bonds to be redeemed, shall be published in the cities of New York, and London, England, by advertisement in a daily newspaper of each of said cities at least thirty days before the day of redemption; and that all Bonds so redeemed and all coupons thereof, shall be canceled by the Company in the presence of the Trustees, who shall keep a list thereof. No interest shall accrue on any Bond so designated for redemption, after it thereby has become payable, and the Company shall be ready to pay the same.

*In witness whereof, And in pursuance of a resolution of its Board of Directors, passed on the fifteenth day of December, One thousand eight hundred and seventy, the party of the first part has caused its corporate seal to be affixed to these presents, at Fort Erie, in the Province of Ontario, Dominion of Canada, and the same to be attested by the signatures of its President and Secretary, and the said parties of the second part have hereunto set their respective hands and seals to testify their acceptance of the said trust, the day and year first above written; and these presents are executed in nine parts for the purpose of registration in the several counties above mentioned.*

Signed, sealed and delivered, }  
in presence of }

*President.*

*Secretary.*

*Trustees.*